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PERMITTING & COMPLIANCE/WPB

Montana Department of ENVIRONMENTAL QUALITY
WATER PROTECTION BUREAU

Agency Use	
Permit No.:	MTG010232
Date Rec'd	4/30/12
Rec'd By	ks

FORM
NMP

Nutrient Management Plan

READ THIS BEFORE COMPLETING FORM: Before completing this form (Form NMP), Concentrated Animal Feeding Operation (CAFO) operators need to read the General Permit, particularly Part IV.A. CAFO operators also need to read the "Instructions For Filling Out Form NMP," found at the back of the Form. Form NMP is intended to help CAFO operators develop a site-specific Nutrient Management Plan, in compliance with Part IV.A of the General Permit and all applicable State rules and statutes. Your Nutrient Management Plan must be maintained at the site as required in Part III of the General Permit. Sections B and C on your Form NMP must state the information exactly the same way as it was stated on the most recently submitted version of your Form 2B. Attach additional pages as necessary, indicating the corresponding section number on this NMP form. For additional help in filling out this form please read the attached instructions. The 2008 General Permit, current fee schedule, and related forms are available from the Water Protection Bureau at (406) 444-3080 or http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp

Section A - NMP Status *(Check one):*

☒ New — No prior NMP submitted for this site.

☐ Modification — Change or update to existing NMP.

Permit Number: MT 010232 (Specify the permit number that was previously assigned to your facility.)

Section B - Facility or Site Information:

Site Name Milky Colony Inc

Site Location 5130 US Hwy 89

Nearest City or Town Bynum County Teton

Section C - Applicant (Owner/Operator) Information:

Owner or Operator Name Milky Colony

Mailing Address 5130 US Hwy 89

City, State, and Zip Code Choteau MT 59422

Phone Number 406-466-2339

COPY

3. Waste Control Structures

Waste Control Structure (name/type)	Length (ft)	Width (ft)	Depth (ft)	Volume (cubic ft or gallons)
1. Storage Tank				1,200,000
2. Lagoon				5,500,000
3. Evaporating Pond				N/A
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

4. Disposal of Dead Animals

Describe how dead animals are disposed of at this facility:

Dead animals are buried @ least 2 feet deep.

5. Clean Water Diversion Practices

Describe how clean water is diverted from production area:

Ditches & Berms

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's **land application area**. Indicate the location of these practices. If not already in use, include a schedule for implementation of each of these measures. Attached details and specifications may be used to supplement this description. Examples of BMP measures could include but are not limited to: maintaining setbacks from surface waters for manure applications; managing irrigation practices to prevent ponding of wastewater on land application sites; never spray irrigating wastes onto frozen ground; consulting with the Department prior to applying any liquid waste to frozen or snow-covered ground; applying wastes at agronomic rates.

Plant sampling/tissue analysis	(yes)/no	Rotational grazing	(yes)/no
Conservation or reduced tillage	(yes)/no	Manure injection or incorporation	(yes)/no
Terraces or other water control structures	yes/(no)	Contour plantings	yes/(no)
Riparian buffers or vegetative filter strips	(yes)/no	Winter "scavenger" or cover crops	(yes)/no

Other examples

9. Implementation, Operation, Maintenance and Record Keeping – Guidance

The permittee is required to develop guidance addressing implementation of NMP, proper operation and maintenance of the facility, and record keeping as described in Part II of the permit.

Has a guidance document been developed for the facility? ☐ Yes ☒ No

Certify the document addresses the following requirements:

Implementation of the NMP:	☐ Yes	☐ No
Facility operation and maintenance:	☐ Yes	☐ No
Record keeping and reporting:	☐ Yes	☐ No
Sample collection and analysis:	☐ Yes	☐ No
Manure transfer:	☐ Yes	☐ No

Provide name, date and location of most recent documentation:

If your answer to any of the above question is no, provide explanation

currently developing

Phosphorus Risk Assessment

The permittee shall assess the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or may be applied. If a new field is added in the future, then the permittee must submit a revised (modified) NMP. The permittee has the option of using either Method A or Method B (below) to complete the assessment. Copies of all tables and calculations used to complete the assessments, as well as the results of the assessments, shall be submitted to the Department and copies shall be maintained on-site at the facility and available for Departmental review. The results of the assessments shall be used to determine the appropriate basis for land application of wastes from the facility.

Method Used

Indicate which method will be used to determine phosphorus application:

☐ Method A – Representative Soil Sample
☐ Method B – Phosphorus Index

Method A – Representative Soil Sample

a) Obtain one or more representative soil sample(s) from the field.
b) Have the sample analyzed for Phosphorus by a qualified lab. The "Olsen P test" must be used for the analysis, and the result must be reported in parts per million (ppm).
c) Using the results of the Olsen P test, determine the application basis according to the Table below

Soil Test	
Olsen P Soil Test Result (ppm)	*Application Basis*
<25.0	Nitrogen Needs Of Crop
25.1 - 100.0	Phosphorus Needs Of Crop
100.0 - 150.0	Phosphorus Needs up to Crop Removal Rate
>150.0	No Application

Method B – Phosphorus Index

a) Complete a Phosphorus Index according to for each crop grown on each field. Complete table in Appendix A to calculate phosphorus index. For information on filling out specific sections Appendix A, please refer to Attachment 2 of Department Circular DEQ 9.
b) Using the calculated Total Phosphorus Index Value, assign the overall site/field vulnerability to phosphorus loss according to the table below.

Total Phosphorus	
Total Phosphorus Index Value	*Site Vulnerability to Phosphorus Loss*
<11	Low
11-21	Medium
22-43	High
>43	Very High

c) Using the calculated Site Vulnerability to Phosphorus Loss, determine the appropriate application basis according to the table below.

Site Vulnerability to Phosphorus Loss	
Site Vulnerability to Phosphorus Loss	*Application Basis*
Low	Nitrogen Needs
Medium	Nitrogen Needs
High	Phosphorus Need Up to Crop Removal
Very High	Phosphorus Crop Removal or No Application

INSTRUCTIONS FOR

Form NMP - Nutrient Management Plan Associated With Concentrated Animal Feeding Operations

You may need the following items in order to complete this form: A copy of your most recently submitted Form 2B; a copy of Department Circular DEQ 9, "Montana Technical Standards for Concentrated Animal Feeding Operations;" a copy of soil and manure sample analyses; and a calculator.

Please type or print legibly; forms that are not legible or are not complete will be returned.

SPECIFIC ITEM INSTRUCTIONS

Section A – NMP Status:
Check the box that applies and provide the requested information. If Form NMP has not been previously submitted for this site, check the first box (New). If you submitted a Form NMP and the Department returned it to you as deficient or incomplete, check the second box (Resubmitted); if you were notified by the Department that the permit coverage expired and you are now submitting an updated Form NMP, check the third box (Renewal); if there is a change in the facility or site information (Section H), check the last box (Modification). If a Form NMP has been submitted and returned as incomplete, then the permit number appears in the upper right hand corner of the form. If the site is covered under the *General Permit for Concentrated Animal Feeding Operations*, the number is given on the Authorization letter sent to you by the Department. The permit number must be included on any correspondence with the Department regarding this site.

Section B – Facility or Site Information:
The information must be stated exactly the same way as it was stated on the most recently submitted version of your Form 2B.

Section C – Applicant (Owner/Operator) Information:
The information must be stated exactly the same way as it was stated on the most recently submitted version of your Form 2B.

Section D – Waste Management Minimum Elements:

Livestock Statistics: Identify each type of animal confined at your facility. The definition of "type" could include animals of a given species, animals of a given weight class (e.g. piglets, sows), or animals housed for a specific purpose (e.g. dry cows, milking cows).

"Number of days on site per year" means the number of days at least one animal of a given type is held in confinement during any 12-month period.

"Annual manure production" means the volume of manure (from a given animal type) that is stored, land applied, or transferred to other persons during any given 12-month period. When describing the method used to calculate annual manure production, include all formulas, factors, references to tables, and other resources used to calculate manure production. Be sure to account for soiled bedding materials and manure-contaminated runoff water, also considered manure under state regulations.

Manure Removal from Confinement Area, list each confinement area at your facility. For example, pens, freestall barns, hog barns, poultry barns, yard back, calving pens, etc.

Nutrient Management and Waste Utilization via Land Application:
The purpose for having two options is to allow you to make use of the valuable technical assistance provided by the USDA's Natural Resources Conservation Service (NRCS), if you should so desire.

Requirements: Land application equipment calibration is essential to ensuring that nutrients are being applied at agronomic rates. Section 5 of Department Circular DEQ 9 contains sample instructions on how to calibrate some types of land application equipment. The instructions in Section 5 of Department Circular DEQ 9 are purely recommendations, other methods may work just as well. When sending manure or soil samples to a laboratory for analysis, it is your responsibility to make sure that the lab uses the correct sampling procedures. You should never just "assume" that they will. It is also your responsibility to make sure that the results of the analysis are reported using the appropriate units of measurement. Before you take any samples, talk to the lab that you intend to use. Ask them if they have specific instructions on how to obtain and submit samples. If they do, then you must follow their instructions in order to help ensure that the analysis results you get are as accurate as possible.

You will most likely need to make and fill out multiple photocopies of "Table 4 – Crops and Manure". For information on how to fill out specific sections of Table 6 – Phosphorus Index, please refer to Attachment 2 of Department Circular DEQ 9.

"Table 9 – Nutrient Budget Worksheet" must be filled out for each crop grown on each field to which manure or process wastewater will or may be applied, regardless of whether Method A has been used or Method B has been used. When filling out Table 9, be sure and refer to nitrogen in terms of pounds of elemental nitrogen. Phosphorus should be referred to in pounds of P_2O_5.

Section F – Certification:
If Form NMP is filled out by one person and signed by another, the person signing the document should read it thoroughly. Always retain a copy of each of the documents that you send to the Department.

If you have any questions concerning how to fill out this form, or other forms related to the Montana Pollutant Discharge Elimination System (MPDES) discharge permitting program, please contact the Department's Water Protection Bureau at:

Phone: (406) 444-3080
Fax: (406) 444-1374
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet			
Site/Field:			
	Nutrient Budget	***Nitrogen-based Application***	***Phosphorus-based Application***
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9		
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable		
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)		
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre		
(-)	Nutrients supplied in irrigation water, lbs/acre		
	= Additional Nutrients Needed, lbs/acre		
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)		
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)		
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal		
	Additional Nutrients needed, lbs/acre (calculated above)		
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)		
	= Manure Application Rate, tons/acre or 1,000 gal/acre		

Comments:

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Crop 1 (year 1 or ?) plant species	Pasture
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	2 T/Ac
N Content of soil as nitrate (lbs/acre or ppm)	-
P Content of soil as P_2O_5 (lbs/acre or ppm)	-
Time of Year When Application will Occur (month)	Spring
Application frequency (per year by month)	1X
Form of manure (liquid/solid)	Solid
Method of Application	Broadcast
Is manure incorporated or broadcast?	1
Frequency of Application (yearly, biannual, etc.?)	every 4-5 yrs
Crop 2	
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as Nitrate (lbs/acre or ppm)	
P Content of soil as P_2O_5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year, by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure broadcast, injected or incorporated?	
Frequency of Application (Annual, Biannual, ,etc?)	

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type):	
Crop 1 (year 1 or ?) plant species	Canola (yr 1)
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	50 bu 1000#
N Content of soil as nitrate (lbs/acre or ppm)	49
P Content of soil as P_2O_5 (lbs/acre or ppm)	32
Time of Year When Application will Occur (month)	Spring
Application frequency (per year by month)	1x
Form of manure (liquid/solid)	Slurry
Method of Application	Sprinkle
Is manure incorporated or broadcast?	Sprinkle then Incorporate
Frequency of Application (yearly, biannual, etc.?)	Yearly
Crop 2	Lentils (yr 4)
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	15 bu
N Content of soil as Nitrate (lbs/acre or ppm)	50
P Content of soil as P_2O_5 (lbs/acre or ppm)	20
Time of Year When Application will Occur (month)	April
Application frequency (per year, by month)	1 X yr
Form of manure (liquid/solid)	slurry
Method of Application	Sprinkle
Is manure broadcast, injected or incorporated?	Sprinkle then broadcast
Frequency of Application (Annual, Biannual, ,etc?)	every 4/5 yrs

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure

Field Name and spreadable acres for each (for fields with identical crops and soils type):

Crop 1 (year 1 or ?) plant species	Winter Wheat yr (3)	
Irrigated (Y/N) Both	Y	N
Yield Goal (ton/ac or bushel/ac)	120	40
N Content of soil as nitrate (lbs/acre or ppm)	49	50
P Content of soil as P_2O_5 (lbs/acre or ppm)	32	20
Time of Year When Application will Occur (month)	~~Spring Summer~~	June/July
Application frequency (per year by month)	1X/yr	every 4-5 yrs
Form of manure (liquid/solid)	slurry	slurry
Method of Application	sprinkle	sprinkle
Is manure incorporated or broadcast?	Sprinkled then worked in	
Frequency of Application (yearly, biannual, etc.?)	yearly	every 4-5 yrs
Crop 2	Barley	yr 2
Irrigated (Y/N)		
Yield Goal (ton/ac or bushel/ac)	100 bu	
N Content of soil as Nitrate (lbs/acre or ppm)	49	
P Content of soil as P_2O_5 (lbs/acre or ppm)	32	
Time of Year When Application will Occur (month)	Spring	
Application frequency (per year, by month)	1x yr	
Form of manure (liquid/solid)	slurry	
Method of Application	Sprinkle	
Is manure broadcast, injected or incorporated?	Sprinkle then incorporated	
Frequency of Application (Annual, Biannual, ,etc?)	Annual	

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Site/Field: Winter Wheat — Chicken Manure

	Nutrient Budget	*Nitrogen-based Application*	*Phosphorus-based Application*
40	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	104	35
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable		
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)		
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre		
(-)	Nutrients supplied in irrigation water, lbs/acre		
	= Additional Nutrients Needed, lbs/acre	104	35
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	17.8	13.6
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.5	1.0
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	~~8~~ 8.9	13.6
	Additional Nutrients needed, lbs/acre (calculated above)	104	35
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	~~8~~ 8.9	13.6
	= Manure Application Rate, tons/acre or 1,000 gal/acre	~~152~~ 11.6	2.57

Comments:

Phosphorus 5yr Application = 13.000 gal/yr

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet			
Site/Field:	Winter Wheat	Slurry	
	Nutrient Budget	***Nitrogen-based Application***	***Phosphorus-based Application***
40 bu	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	104	35
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable		
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)		
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre		
(-)	Nutrients supplied in irrigation water, lbs/acre		
	= Additional Nutrients Needed, lbs/acre	104	35
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	13.6	1.2
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.5	1.0
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	6.8	1.2
	Additional Nutrients needed, lbs/acre (calculated above)	104	35
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	6.8	1.2
	= Manure Application Rate, tons/acre or 1,000 gal/acre	15.3	29

Comments:

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Site/Field: SHEEP PASTURE SHEEP/BEEF SOLID

	Nutrient Budget	Nitrogen-based Application	Phosphorus-based Application
	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	40	20
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	—	
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	—	
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	—	
(-)	Nutrients supplied in irrigation water, lbs/acre	—	
	= Additional Nutrients Needed, lbs/acre	40	20
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	12.6	14
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)		1.0
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal		14
	Additional Nutrients needed, lbs/acre (calculated above)		20
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)		
	= Manure Application Rate, tons/acre or 1,000 gal/acre		1

Comments:

5 yr application rate = 5 T/ACRE
Area spread is rotated across field and each site is only applied 1X out of 5 yrs

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Site/Field: CANOLA - EAST Pivot FISH

	Nutrient Budget	***Nitrogen-based Application***	***Phosphorus-based Application***
50 bu	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	65	58.5
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable		
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)		
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre		
(-)	Nutrients supplied in irrigation water, lbs/acre		
	= Additional Nutrients Needed, lbs/acre	65	58.5
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	0.9	0.7
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	.75	1.0
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	0.68	x 0.7
	Additional Nutrients needed, lbs/acre (calculated above)	65	58.5
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)		
	= Manure Application Rate, tons/acre or 1,000 gal/acre	95	83.5

Comments:

Available 25,000 Gal - Supplies 17# N
17.5 # Phosphorus

d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Site/Field: Corn - Pivot West First

	Nutrient Budget	***Nitrogen-based Application***	***Phosphorus-based Application***
Silage 24 Ton	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9	243	215
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	–	–
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	–	–
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	–	–
(-)	Nutrients supplied in irrigation water, lbs/acre	–	–
	= Additional Nutrients Needed, lbs/acre	243	215
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	0.90	0.70
(x)	Nutrient Avalability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	0.75	1.0
	= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal	0.68	0.7
	Additional Nutrients needed, lbs/acre (calculated above)	243	215
(/)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	.68	.7
	= Manure Application Rate, tons/acre or 1,000 gal/acre	357	307

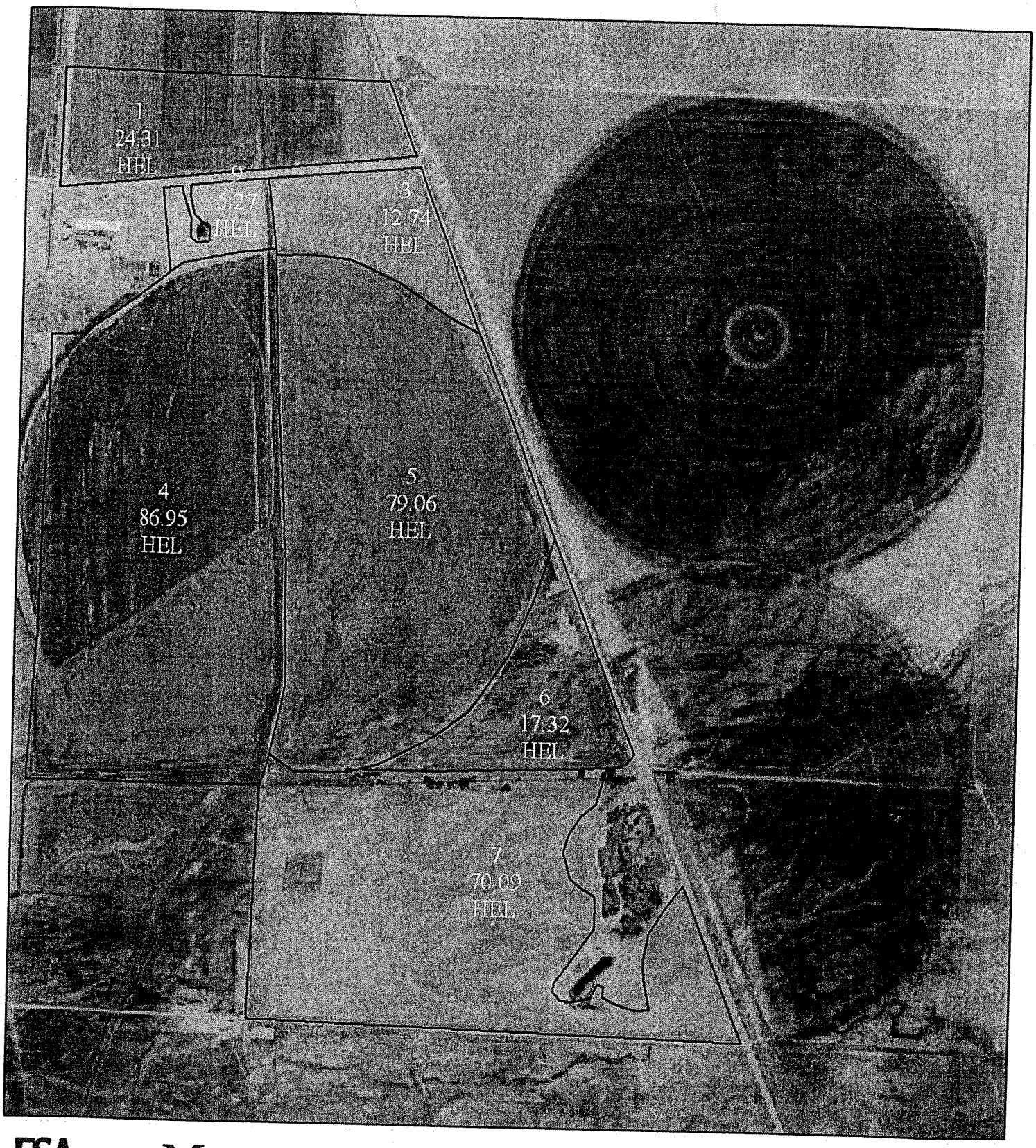
Comments:

Available is 25,000 Gal / Acre
Supplies 17# N , 17.5# phosphorus

Land Application Data-Narrative approach

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. **Fields with identical crops and soil types may be grouped together.**

Crops and Manure	
Field Name and spreadable acres for each (for fields with identical crops and soils type)	
Crop 1 (year 1 or ?) plant species	~~Peas~~ Lentils
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as nitrate (lbs/acre or ppm)	
P Content of soil as P_2O_5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure incorporated or broadcast?	
Frequency of Application (yearly, biannual, etc.?)	
Crop 2	Winter wheat
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as Nitrate (lbs/acre or ppm)	
P Content of soil as P_2O_5 (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year, by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure broadcast, injected or incorporated?	
Frequency of Application (Annual, Biannual, ,etc?)	



FSA

Montana 2010
Teton County FSA

Farm	Tract
5083	2150

Section-Township-Range

17-25N-5W

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

Nov 02, 2009

N W E S

1:8,500

USDA FSA maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or the 2005 ortho rectified imagery for Montana. The producer accepts the data 'as is' and assumes all risks associated with its use. The USDA Farm Service Agency assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside of FSA Programs.

Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

FSA

Montana
Teton County FSA

2010

Farm	Tract
5083	2135

Section-Township-Range

8-25N-5W

Legend

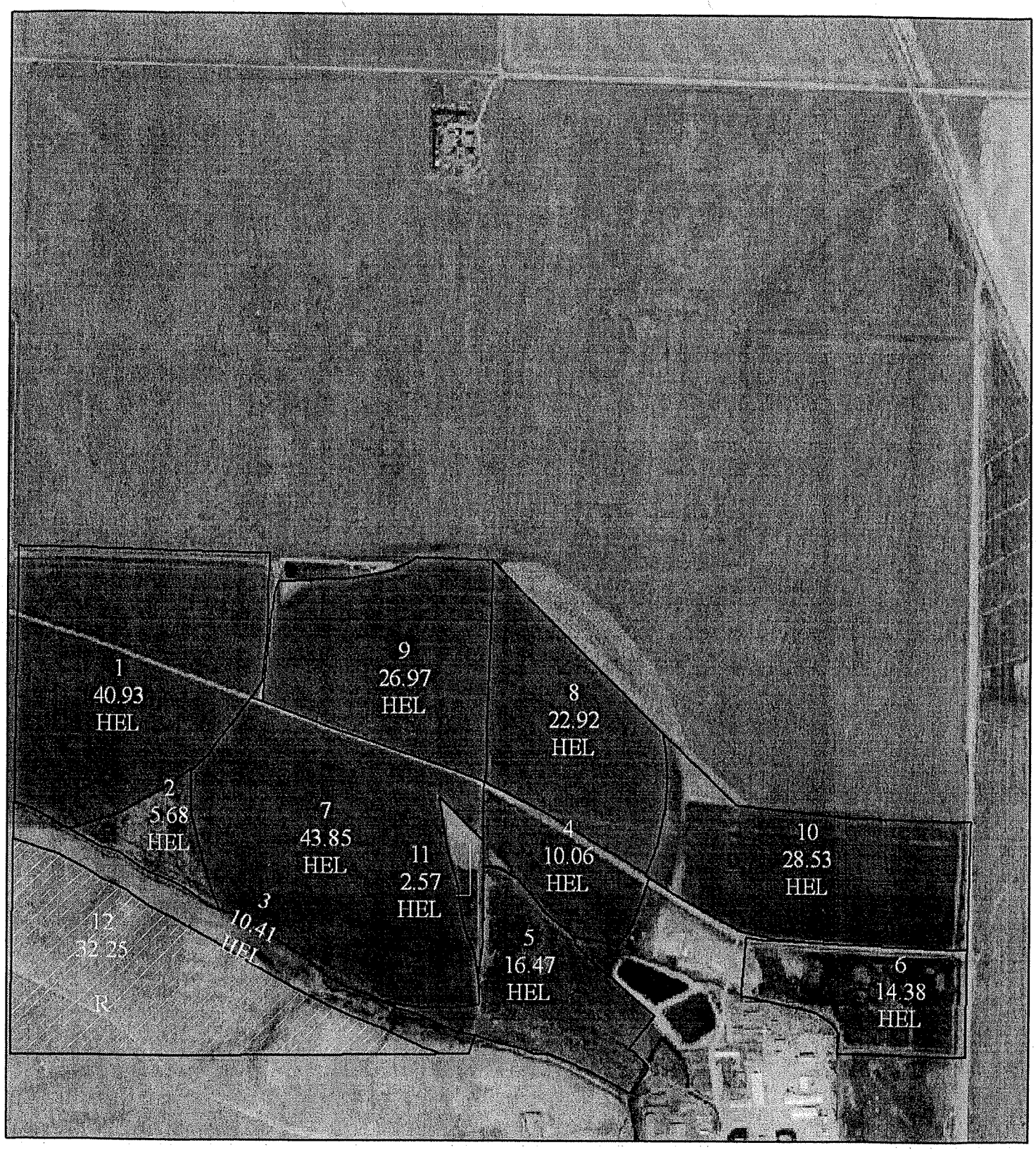
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

N W E S

1:8,500

USDA FSA maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or the 2005 ortho rectified imagery for Montana. The producer accepts the data 'as is' and assumes all risks associated with its use. The USDA Farm Service Agency assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside of FSA Programs. Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Nov 02, 2009



FSA

Montana 2010
Teton County FSA

Farm	Tract
5083	2133

Section-Township-Range

7-25N-5W

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

N W E S

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1:8,500

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Nov 02, 2009

Montana 2010
Teton County FSA

Farm	Tract
5083	2231

Section-Township-Range

12-25N-6W

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

N W E S

1:8,500

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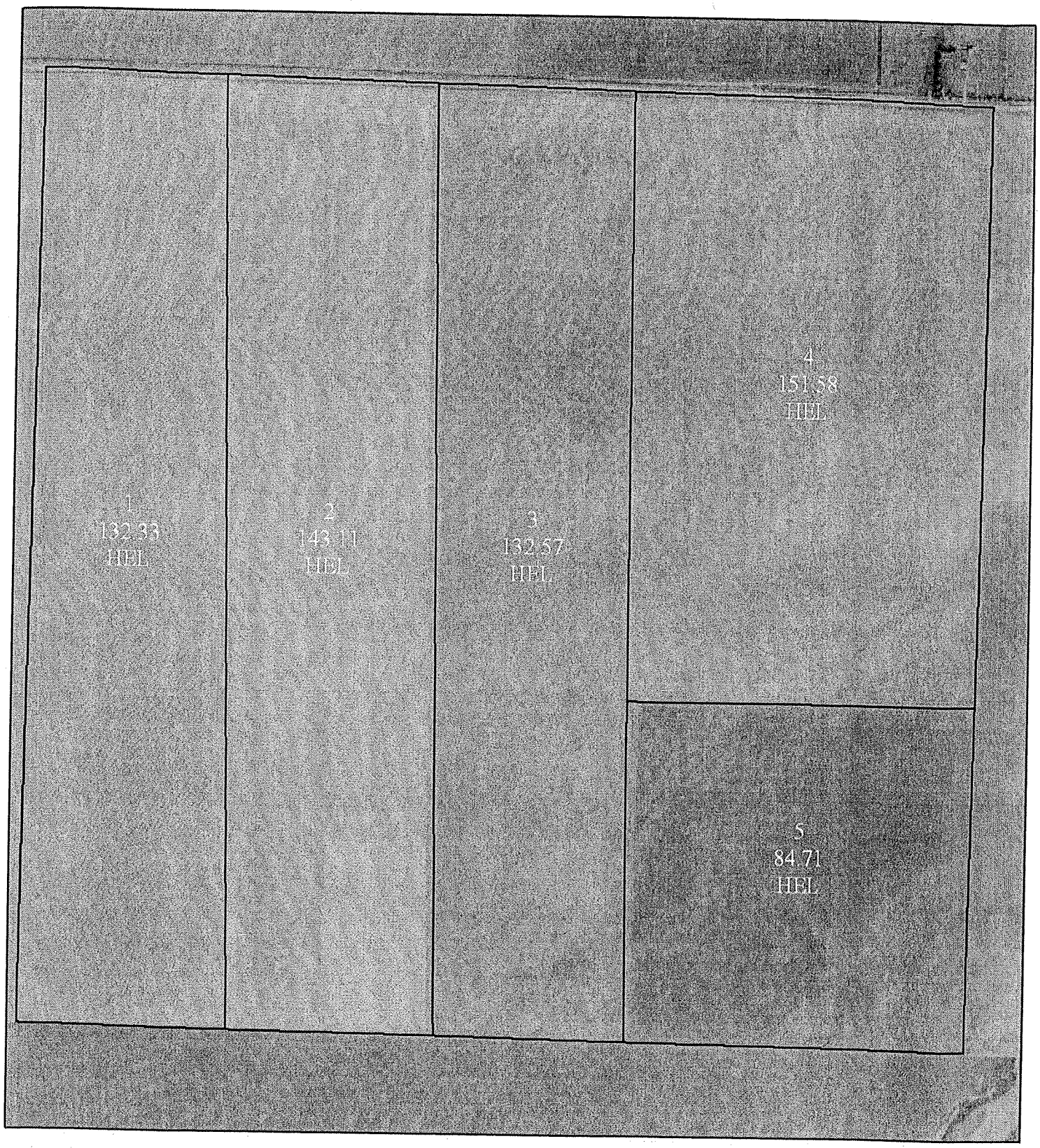
Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Nov 02, 2009



FSA

Montana 2010
Teton County FSA

Farm	Tract
5083	2136

Section-Township-Range

9-25N-5W

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

N W E S

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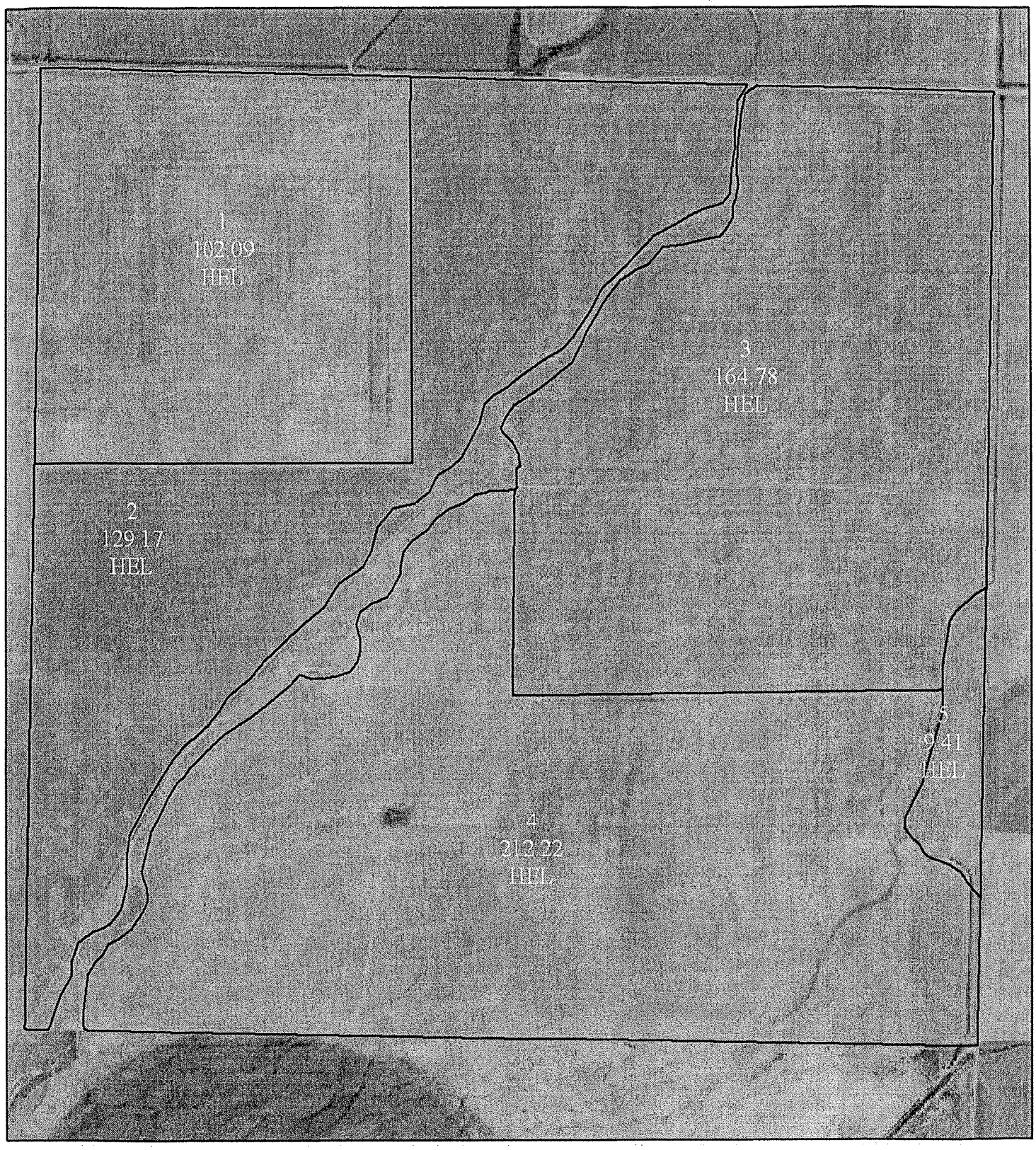
1:8,500

Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Nov 02, 2009



FSA

Montana
Teton County FSA

2010

Farm	Tract
5083	2137

Section-Township-Range

10-25N-5W

N
W E
S

1:8,500

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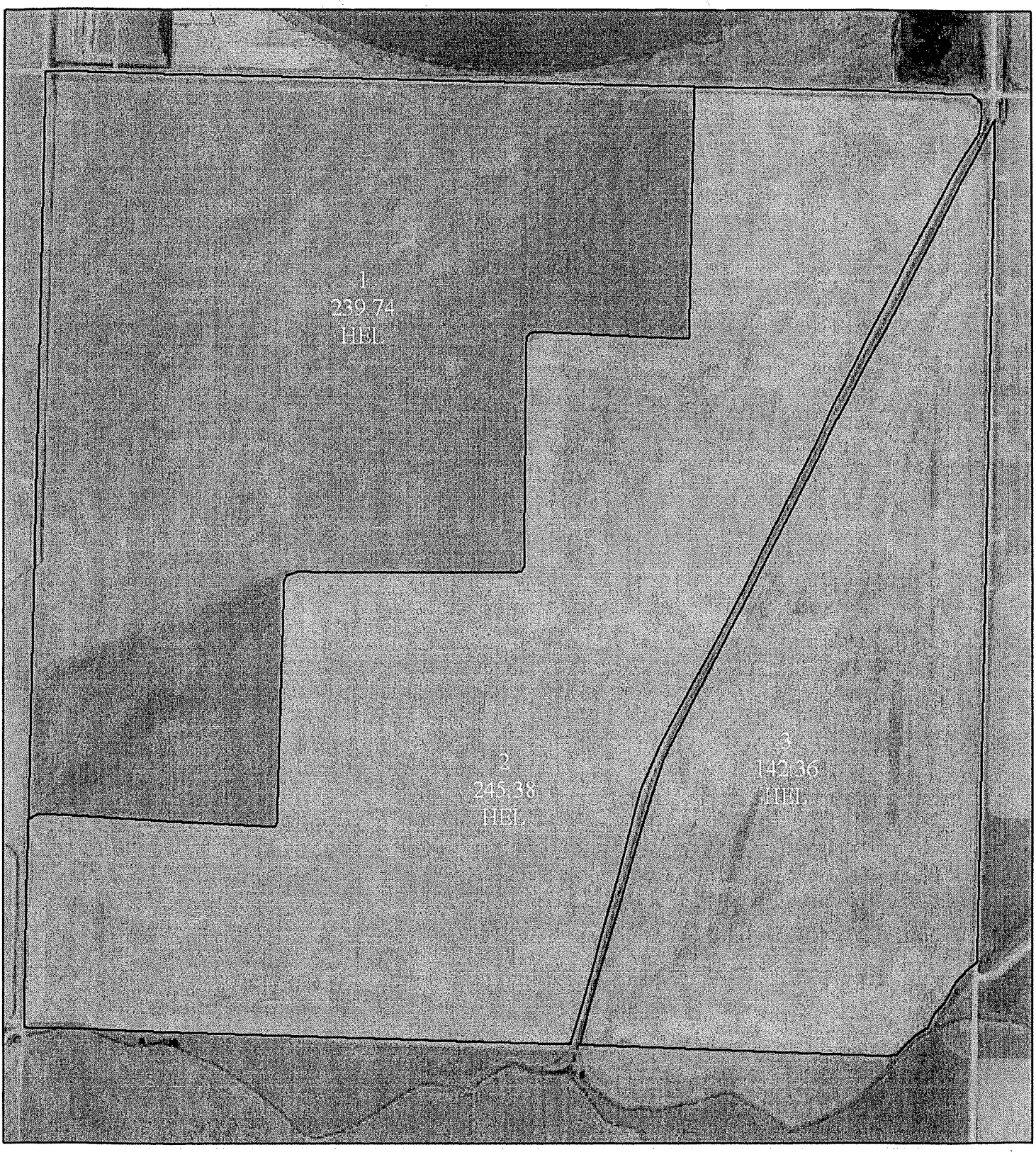
Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

Nov 02, 2009



FSA

Montana
Teton County FSA

2010

Farm	Tract
5083	2138

Section-Township-Range

11-25N-5W

Legend

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions
- CLU Field Boundary
- Rangeland
- Non Ag Use

N W E S

USDA FSA maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or the 2005 ortho rectified imagery for Montana. The producer accepts the data 'as is' and assumes all risks associated with its use. The USDA Farm Service Agency assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside of FSA Programs.

1:8,500

Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Nov 02, 2009

CENTROL®

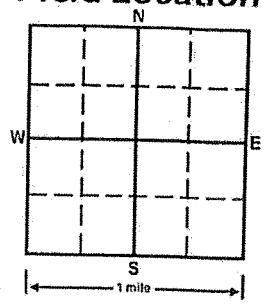
Soil Analysis by: Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

REF# 13504780 LAB# 182594 BOX# 0

FIELD COLONY
SAMPLE COL PIV E
CNTY TETON
TWP
SEC 0 QTR ACRES 80
PREV. CROP Wheat-High Pro.

Field Location



SUBMITTED FOR:

MILLER COLONY

BYNUM, MT

SUBMITTED BY: CE0678

CENTROL LLC
PO BOX 284
BRADY,MT
59416

Date Sampled:	12/16/2011	Date Received:	12/21/2011	Date Reported:	12/22/2011

NUTRIENT IN SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate	0-6" 22 lb/ac 6-24" 27 lb/ac 0-24" 49 lb/ac	******	****		
Olsen Phosphorus	32 ppm	******	******	******	******
Potassium	188 ppm	******	******	******	******
Chloride	0-24" 48 lb/ac	******	******	******	**
Sulfur	0-6" 28 lb/ac 6-24" 84 lb/ac	****** ******	****** ******	****** ******	****** ******
Boron					
Zinc					
Iron					
Manganese					
Copper	1.37 ppm	******	******	******	*
Magnesium					
Calcium					
Sodium					
Org. Matter	3.3 %	******	******	*	
Carbonate					
Sol. Salts	0-6" 0.38 mmho/cm 6-24" 0.3 mmho/cm	****** ******	*** *		

1st CROP CHOICE		
Canola-bu		
Yield Goal		
50 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	126	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2nd CROP CHOICE		
Canola-bu		
Yield Goal		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	161	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3rd CROP CHOICE		
Canola-bu		
Yield Goal		
70 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	196	
P_2O_5	10	Band (Starter)*
K_2O	0	
Cl		Not Available
S	15	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation(Typical Range)				
			% Ca	% Mg	% K	% Na	% H
8.0							

Crop 1: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 45 K2O = 23AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 54 K2O = 27AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 63 K2O = 32AGVISE Band guidelines will build P & K test levels to the medium range over many years.

CENTROL®

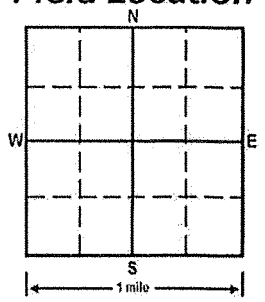
Soil Analysis by: Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD VALLEY PIV
SAMPLE VALLEY PIV
CNTY TETON
TWP
SEC 0 QTR ACRES 100
PREV. CROP Grass/Alfalfa

REF# 13504796 LAB# 182586 BOX# 0

Field Location



SUBMITTED FOR:

MILLER COLONY

BYNUM, MT

SUBMITTED BY: CE0678

CENTROL LLC
PO BOX 284
BRADY,MT
59416

Date Sampled:	12/16/2011	Date Received:	12/21/2011	Date Reported:	12/22/2011

NUTRIENT IN SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate	0-6" 8 lb/ac 6-24" 3 lb/ac 0-24" 11 lb/ac	**			
Phosphorus	Olsen 21 ppm	******	******	******	******
Potassium	196 ppm	******	******	******	******
Chloride	0-24" 8 lb/ac	***			
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	****** ******	****** ******	****** ******	****** ******
Boron	1.8 ppm	******	******	******	******
Zinc	1.64 ppm	******	******	******	****
Iron	23.1 ppm	******	******	******	******
Manganese	4.9 ppm	******	******	******	******
Copper	1.13 ppm	******	******	******	
Magnesium	494 ppm	******	******	******	******
Calcium	7427 ppm	******	******	******	******
Sodium	47 ppm	******	*		
Org. Matter	3.2 %	******	******		
Carbonate	6.0 %	******	******	******	*
Sol. Salts	0-6" 1.49 mmho/cm 6-24" 1.75 mmho/cm	****** ******	****** ******	****** ******	**** ****

1st CROP CHOICE		
Grass/Alfalfa		
Yield Goal		
5 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	64	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd CROP CHOICE		
Grass/Alfalfa		
Yield Goal		
6 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	79	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd CROP CHOICE		
Grass/Alfalfa		
Yield Goal		
7 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	94	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation(Typical Range)				
			% Ca	% Mg	% K	% Na	% H
7.8		42.0 meq	(65-75) 88.5	(15-20) 9.8	(1-7) 1.2	(0-5) 0.5	(0-5)

Crop 1: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 50 K2O = 240AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.
Crop 2: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 60 K2O = 288AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.
Crop 3: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 70 K2O = 336AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

CENTROL®

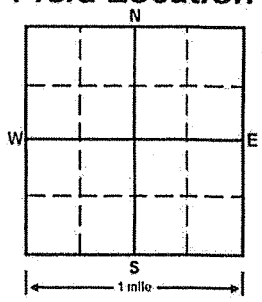
Soil Analysis by: Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD VASE
SAMPLE VASE HAY
CNTY TETON
TWP
SEC 0 QTR ACRES 50
PREV. CROP Grass/Pasture

REF# 13504773 LAB# 182605 BOX# 0

Field Location



SUBMITTED FOR:

MILLER COLONY

BYNUM, MT

SUBMITTED BY: CE0678

CENTROL LLC
PO BOX 284
BRADY,MT
59416

Date Sampled:	12/16/2011	Date Received:	12/21/2011	Date Reported:	12/22/2011

NUTRIENT IN SOIL		INTERPRETATION			
		VLow	Low	Med	High
0-6"	2 lb/ac				
6-24"	3 lb/ac				
0-24"	5 lb/ac				
Nitrate					
Olsen Phosphorus	35 ppm	******	******	******	******
Potassium	368 ppm	******	******	******	******
0-24" Chloride	132 lb/ac	******	******	******	******
0-6"	120 +lb/ac	******	******	******	******
6-24" Sulfur	360 +lb/ac	******	******	******	******
Boron					
Zinc					
Iron					
Manganese					
Copper	2.21 ppm	******	******	******	**
Magnesium					
Calcium					
Sodium					
Org. Matter	5.3 %	******	******	******	***
Carbonate					
0-6"	1.18 mmho/cm	******	******	******	**
6-24" Sol. Salts	0.48 mmho/cm	******	******	******	**

1st CROP CHOICE		
Grass/Pasture		
Yield Goal		
3 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	85	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2nd CROP CHOICE		
Grass/Pasture		
Yield Goal		
4 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	115	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3rd CROP CHOICE		
Grass/Pasture		
Yield Goal		
5 Tons		
SUGGESTED GUIDELINES		
Broadcast		
LB/ACRE		APPLICATION
N	145	
P_2O_5	0	
K_2O	0	
Cl		Not Available
S	0	
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation(Typical Range)				
			% Ca	% Mg	% K	% Na	% H
9.0							

Crop 1: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 36 K2O = 135AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.
Crop 2: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 48 K2O = 180AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.
Crop 3: ** Chloride yield data is limited for this crop.Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 60 K2O = 225AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

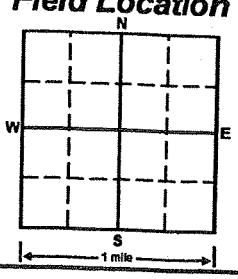
CENTROL®

SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

FIELD	CUMMINS	SAMPLE	25
CNTY	TETON		
TWP	25N-5W	SECTION	11
QTR		ACRES	245.0
PREV. CROP	Fallow		

Field Location



SUBMITTED FOR:
MILLER COLONY
BLACKLEAF FARM
5130 HWY 89
BYNUM, MT
59422

SUBMITTED BY: CE0678
CENTROL LLC
211 CENTRAL AVE E
PO BOX 284
BRADY,MT
59416

REF# 14177548
LAB# 36065
BOX# 0

Date Sampled:	8/28/2011	Date Received:	8/31/2011	Date Reported:	9/1/2011 align=center

NUTRIENT IN THE SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate	0-6" 30 lb/ac 6-18" 20 lb/ac 0-18" 50 lb/ac	****	**		
Olsen Phosphorus	20 ppm	****	****	****	****
Potassium	199 ppm	****	****	****	****
Chloride	0-6" 4 lb/ac 6-18" 8 lb/ac	**			
Sulfur	0-6" 6 lb/ac 6-18" 16 lb/ac	**** ****	 **		
Boron					
Zinc					
Iron					
Manganese					
Copper	1.03 ppm	****	****	****	****
Magnesium					
Calcium					
Sodium					
Org.Matter	2.5 %	****	***		
Carbonate(CCE)					
Sol. Salts	0-6" 0.32 mmho/cm 6-18" 0.24 mmho/cm	**** ****	**		

1ST CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
40 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	70	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2ND CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
50 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	100	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3RD CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
60 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	130	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
8.3							

Crop 1: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 25 K2O = 15 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

60-25-5-10 DRILL 35 BU
NO TOPDRESS

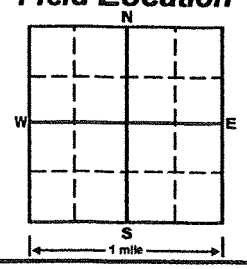
CENTROL®

Soil Analysis by Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD	CUMMINS	SAMPLE	11,13,14,16
CNTY	TETON		
TWP	25N-5W	SECTION	8
QTR		ACRES	496.0
PREV. CROP	Fallow		

Field Location



SUBMITTED FOR:
MILLER COLONY
BLACKLEAF FARM
5130 HWY 89
BYNUM, MT
59422

SUBMITTED BY: CE0678
CENTROL LLC
211 CENTRAL AVE E
PO BOX 284
BRADY,MT
59416

REF# 14177547
LAB# 36058
BOX# 0

Date Sampled:	8/28/2011	Date Received:	8/31/2011	Date Reported:	9/1/2011 align=center

NUTRIENT IN THE SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate	0-6" 36 lb/ac 6-18" 20 lb/ac 0-18" 56 lb/ac	****	***		
Olsen Phosphorus	21 ppm	****	****	****	****
Potassium	226 ppm	****	****	****	****
Chloride	0-6" 5 lb/ac 6-18" 10 lb/ac	**			
Sulfur	0-6" 6 lb/ac 6-18" 8 lb/ac	**** ***			
Boron					
Zinc					
Iron					
Manganese					
Copper	1.14 ppm	****	****	****	****
Magnesium					
Calcium					
Sodium					
Org.Matter	2.7 %	****	***		
Carbonate(CCE)					
Sol. Salts	0-6" 0.3 mmho/cm 6-18" 0.22 mmho/cm	**** ****	**		

1ST CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
40 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	64	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	25	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2ND CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
50 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	94	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	25	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3RD CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
60 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	124	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	25	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
8.3							

Crop 1: 55 lbs of 0-0-60 = 25 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 25 K2O = 15 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: 55 lbs of 0-0-60 = 25 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: 55 lbs of 0-0-60 = 25 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

60-25-5-10 DRILL 35 BU
NO TOPDRESS

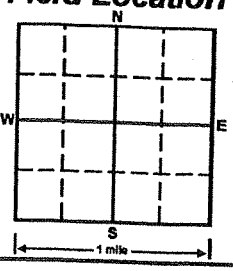
CENTROL®

Soil Analysis by Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD	CUMMINS	SAMPLE	26
CNTY	TETON		
TWP	25N-5W	SECTION	11
QTR		ACRES	142.0
PREV. CROP	Lentils		

Field Location



SUBMITTED FOR:
MILLER COLONY
BLACKLEAF FARM
5130 HWY 89
BYNUM, MT
59422

SUBMITTED BY: CE0678
CENTROL LLC
211 CENTRAL AVE E
PO BOX 284
BRADY,MT
59416

REF# 12501587
LAB# 36068
BOX# 0

Date Sampled:	8/28/2011	Date Received:	8/31/2011	Date Reported:	9/1/2011 align=center

NUTRIENT IN THE SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate 0-6"	5 lb/ac				
6-18"	10 lb/ac				
0-18"	15 lb/ac	**			
Olsen Phosphorus	17 ppm	****	****	****	****
Potassium	225 ppm	****	****	****	****
Chloride 0-6"	4 lb/ac	**			
6-18"	10 lb/ac				
Sulfur 0-6"	10 lb/ac	****	**		
6-18"	20 lb/ac	****	**		
Boron					
Zinc					
Iron					
Manganese					
Copper	0.96 ppm	****	****	****	****
Magnesium					
Calcium					
Sodium					
Org.Matter	2.7 %	****	***		
Carbonate(CCE)					
Sol. Salts 0-6"	0.24 mmho/cm	****			
6-18"	0.19 mmho/cm	***			

1ST CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
40 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	95	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	26	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2ND CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
50 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	125	
P_2O_5	15	Band(Starter)*
K_2O	10	Band(Starter)*
Cl	26	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3RD CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
60 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	155	
P_2O_5	17	Band *
K_2O	10	Band(Starter)*
Cl	26	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
8.4							

Crop 1: 57 lbs of 0-0-60 = 26 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 25 K2O = 15 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: 57 lbs of 0-0-60 = 26 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: 57 lbs of 0-0-60 = 26 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

60 - 25 - 5 - 10

65 # UREA TOPDRESS

35 Bu

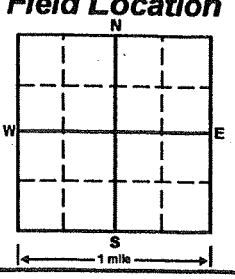
CENTROL®

Soil Analysis by Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD	WEST SHEAR	SAMPLE	WEST SHEAR
CNTY	TETON		
TWP	25N-7W	SECTION	3
QTR		ACRES	166.0
PREV. CROP	Lentils		

Field Location



SUBMITTED FOR:
BLACKLEAF FARM
BLACKLEAF FARM
5130 HWY 89
BYNUM, MT
59422

SUBMITTED BY: **CE0678**
CENTROL LLC
211 CENTRAL AVE E
PO BOX 284
BRADY,MT
59416

REF# 14177546
LAB# 36056
BOX# 0

Date Sampled:	8/28/2011	Date Received:	8/31/2011	Date Reported:	9/1/2011 align=center

NUTRIENT IN THE SOIL		INTERPRETATION			
		VLow	Low	Med	High
Nitrate	0-6" 3 lb/ac 6-18" 10 lb/ac 0-18" 13 lb/ac	**			
Olsen Phosphorus	3 ppm	***			
Potassium	216 ppm	****	****	****	****
Chloride	0-6" 4 lb/ac 6-18" 8 lb/ac	**			
Sulfur	0-6" 4 lb/ac 6-18" 20 lb/ac	*** ****	 **		
Boron					
Zinc					
Iron					
Manganese					
Copper	0.81 ppm	****	****	****	****
Magnesium					
Calcium					
Sodium					
Org.Matter	2.7 %	****	***		
Carbonate(CCE)					
Sol. Salts	0-6" 0.36 mmho/cm 6-18" 0.3 mmho/cm	****	**		

1ST CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
40 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	97	
P_2O_5	30	Band *
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2ND CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
50 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	127	
P_2O_5	37	Band *
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3RD CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
60 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	157	
P_2O_5	45	Band *
K_2O	10	Band(Starter)*
Cl	28	Broadcast
S	12	Band
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
8.4							

Crop 1: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 25 K2O = 15 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: 61 lbs of 0-0-60 = 28 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

60-35-5-10 DRILL
~ 130# UREA TOPDRESS (60 UNITS) 4/5 BU

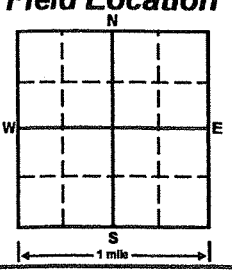
CENTROL®

Soil Analysis by Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD	VASE	SAMPLE	VASE
CNTY	TETON		
TWP	26N-6W	SECTION	28
QTR		ACRES	
PREV. CROP	Lentils		

Field Location



SUBMITTED FOR:
BLACKLEAF FARM
BLACKLEAF FARM
5130 HWY 89
BYNUM, MT
59422

SUBMITTED BY: CE0678
CENTROL LLC
211 CENTRAL AVE E
PO BOX 284
BRADY,MT
59416

REF# 14177545
LAB# 36053
BOX# 0

Date Sampled:	8/28/2011	Date Received:	8/31/2011	Date Reported:	9/1/2011 align=center

NUTRIENT IN THE SOIL		INTERPRETATION VLow	Low	Med	High
Nitrate	0-6" 4 lb/ac 6-18" 16 lb/ac 0-18" 20 lb/ac	***			
Olsen Phosphorus	12 ppm	****	****	****	
Potassium	192 ppm	****	****	****	****
Chloride	0-6" 6 lb/ac 6-18" 12 lb/ac	**			
Sulfur	0-6" 12 lb/ac 6-18" 28 lb/ac	****	***		
Boron					
Zinc					
Iron					
Manganese					
Copper	0.89 ppm	****	****	****	****
Magnesium					
Calcium					
Sodium					
Org.Matter	2.4 %	****	***		
Carbonate(CCE)					
Sol. Salts	0-6" 0.29 mmho/cm 6-18" 0.29 mmho/cm	****	*		

1ST CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
40 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	90	
P_2O_5	18	Band *
K_2O	10	Band(Starter)*
Cl	22	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

2ND CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
50 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	120	
P_2O_5	22	Band *
K_2O	10	Band(Starter)*
Cl	22	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

3RD CROP CHOICE		
Wheat-High Pro.		
YIELD GOAL		
60 size=8 Bu size=8		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	150	
P_2O_5	27	Band *
K_2O	10	Band(Starter)*
Cl	22	Broadcast
S	9	Band (Trial)
B		
Zn		
Fe		
Mn		
Cu	0	
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range) % Ca	% Mg	% K	% Na	% H
8.4							

Crop 1: 48 lbs of 0-0-60 = 22 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 25 K2O = 15 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: 48 lbs of 0-0-60 = 22 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: 48 lbs of 0-0-60 = 22 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 10 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

60-25-5.10 DRILL
55# UREA TOPDRESS 35 BU

CENTROL®

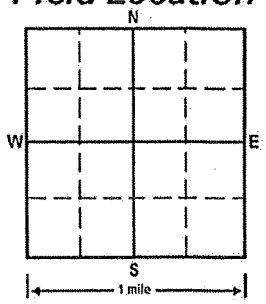
Soil Analysis by: Agvise Laboratories
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD CORN
SAMPLE CORN
CNTY TETON
TWP
SEC 0 QTR ACRES 50
PREV. CROP Corn-Silage

REF# 13504798 LAB# 182596 BOX# 0

Field Location



SUBMITTED FOR:

MILLER COLONY

BYNUM, MT

SUBMITTED BY: CE0678

CENTROL LLC
PO BOX 284
BRADY,MT
59416

Date Sampled:	12/16/2011	Date Received:	12/21/2011	Date Reported:	12/22/2011

NUTRIENT IN SOIL		INTERPRETATION VLow	Low	Med	High
0-6"	26 lb/ac				
6-24"	72 lb/ac				
0-24" Nitrate	98 lb/ac	******	******	******	*
Olsen Phosphorus	36 ppm	******	******	******	******
Potassium	169 ppm	******	******	******	******
0-24" Chloride	8 lb/ac	***			
0-6"	32 lb/ac	******	******	******	******
6-24" Sulfur	78 lb/ac	******	******	******	******
Boron					
Zinc					
Iron					
Manganese					
Copper	3.19 ppm	******	******	******	***
Magnesium					
Calcium					
Sodium					
Org. Matter	3.2 %	******	******		
Carbonate					
0-6"	0.42 mmho/cm	******	****		
6-24" Sol. Salts	0.32 mmho/cm	******	**		

1st CROP CHOICE			2nd CROP CHOICE			3rd CROP CHOICE		
Corn-Silage			Corn-Silage			Corn-Silage		
Yield Goal			Yield Goal			Yield Goal		
15 Tons			25 Tons			30 Tons		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
Band			Band			Band		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N	58		N	162		N	214	
P_2O_5	15	Band (2x2) *	P_2O_5	15	Band (2x2) *	P_2O_5	15	Band (2x2) *
K_2O	29	Band *	K_2O	48	Band *	K_2O	58	Band *
Cl		Not Available	Cl		Not Available	Cl		Not Available
S	0		S	0		S	0	
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu	0		Cu	0		Cu	0	
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation(Typical Range) % Ca	% Mg	% K	% Na	% H
8.1							

Crop 1: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 54 K2O = 125AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 2: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 90 K2O = 208AGVISE Band guidelines will build P & K test levels to the medium range over many years.
Crop 3: ** Chloride yield data is limited for this crop.* Caution: Seed Placed Fertilizer Can Cause Injury *Many crops may respond to a starter application of P & K even on high soil tests.Crop Removal: P2O5 = 108 K2O = 249AGVISE Band guidelines will build P & K test levels to the medium range over many years.